

HYDRO-PNEUMATIC TENSIONER WITH STIFFNESS ALTERING SECONDARY ACCUMULATOR

Abstract of the Invention

A hydro-pneumatic tensioner includes a barrel having an inner bore and a pressurized fluid contained within to form at least part of a primary accumulator having a preset volume of gas at a preselected pressure. A piston having a piston rod extending from an aperture in the barrel is slidably carried in the bore of the barrel and is in communication with the pressurized fluid and positioned to increase the fluid pressure when the piston strokes in the direction of the pressurized fluid. A secondary accumulator also has a preset volume of gas at a preselected pressure. A fluid separator maintains functional separation of the fluid volumes of the primary and secondary accumulators when the primary accumulator pressure is less than a preselected secondary accumulator pressure. The fluid separator allows functional combining of the fluid volumes of the primary and secondary accumulators when the primary accumulator pressure equals or is greater than the preselected secondary accumulator pressure.